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University of Michigan: Cold Plate Research

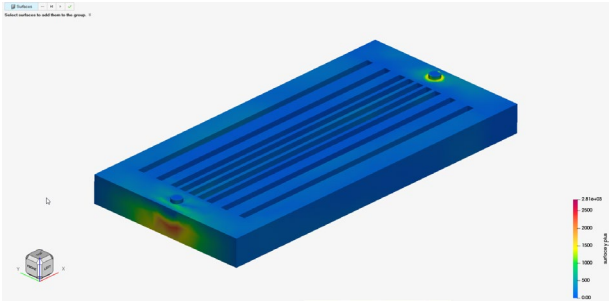
Robert Adams: 3rd Year Undergraduate, B.S.E. Mechanical Engineering

Challenge

This project was a study of how mechanical battery cooling plate design affects thermal and fluid performance. This was done in the last week of my internship at LG Energy Solution (NABDC) as a personal project in my free time.

Solution

I used Altair Hyperworks CFD with AcuSolve. I used Altair's website, fluids research, and customer support to ensure I was generating accurate simulations. I compared the results against an original simulated model.



Value

- I was able to analyze my comparisons and see how the plates performed in the simulations.
- I could pinpoint the best-to-worst performing plates in terms of 5 different parameters
- I learned about cold plate design/manufacturing, CFD, and how to set up and run CFD simulations

"Altair, their supportive community, and their robust CFD software allowed me to create something from nothing and obtain viable results"

– Robert Adams

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